In the United States Patent and Trademark Office



Serial Number:

Appn. Filed:

Applicant(s):

ALEKSANDR L. YUFA

Appn. Title:

"METHOD AND DEVICE FOR COUNTING AND MEASURING

PARTICLES"

Examiner:

Group Art Unit:

Mailed:

June 27, 1997

At:

COLTON, CALIFORNIA

Information Disclosure Statement

Assistant Commissioner for Patents Washington, District of Columbia 20231

Sir:

Attached is a completed Form PTO-1449 and copies of the pertinent parts of the references listed on this form. The comments on the relevance of any non-English references, pursuant to Rule 98 are contained in the Prior Art section of the specification.

Applied Form-1449 and the Pertinent Parts of the References 19 sheets.

Very respectfully,

ALENSANDR L

Date

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Applicant: A. Yufa

OTHER PRIOR ART

(Including Author, Title, Date, Pertinent Pages, Etc.)

- AR R.G.Knollenberg, B.Schuster--"Detection and Sizing of Small Particles in Open Cavity Gas Laser," Applied Optics, Vo.11, No.7, November 1972, pp.1515-1520;
- AS R.G.Knollenberg--"An Active Scattering Aerosol Spectrometer," Atmospheric Technology, No.2, June 1973, pp.80-81;
- AR Schehl, Ergun, Headrick--"Size Spectrometry of Aerosols Using Light Scattering from the Cavity of a Gas Laser," Review of Scientific Instruments, Vol. 44, No.9, September 1973.
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- AR R.G.Knollenberg, R.E.Luehr--"Open Cavity Laser 'Active' Scattering Particle Spectrometry from 0.05 to 5.0 Microns," Fine Particles, Aerosol Generation Measurement, Sampling and Analysis, Academic Press, May 1975, pp.669-696;
- AS R.G.Knollenberg--"Three New Instruments for Cloud Physics Measurements: The 2-D Spectrometer, the Forward Scattering Spectrometer Probe, and the Active Scattering Aerosol Spectrometer", American Meteorological Society, International Conference on Cloud Physics, July 1976, pp. 554-561;

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- AS Elterman "Brewster Angle Light Trap," Applied Optics, Vol. 16, No. 9, September 1977.
- AR Marple--"The Aerodynamic Size Calibration of Optical Particle Counters by Inertial Impactor," Aerosol Measurment, 1979.
- AS Diehl, Smith, Sydor--"Analysis of Suspended Solids by Single-Particle Scattering," Applied Optics, Vol. 18, No. 10, May 1979.
- AR K.Suda--Review of Scientific Instruments, Vol. 51, No. 8, August 1980, pp.1049-1058.
- AS R.G.Knollenberg--"The Measurement of Particle Sizes Below 0.1 Micrometers", Journal of Environment Science, January-February, 1985, pp. 64-67.
- AR K.Sasaki, M.Koshioka, H.Misawa, M.Kitamura, H.Masuhara--"Laser-Scanning Micromanipulation and Spatial Patterning of Fine Particles", Japanese Journal of Applied Physics, Vo.30, No.5B, May 1991, pp.L907-L909.
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AR Peters--"20 Good Reasons to Use In Situ Particle Monitors", Semiconductor International, November 1992, pp.52-57.

AS Busselman et al.--"In Situ Particle Monitoring in a Single Wafer Poly Silicon and Silicon Nitride Etch System", IEEE/SEMI, Int'l Semiconductor Manufacturing Science Symposium, 1993, pp.20-26.

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		36.		Clabb	Sabolass	Issue Date		
				- 1	INITED STATES OF AMERICA	ERICA PATENTS	SEN	
NSA	3449567	299		356/335	378/51	6/10/69	APPARATUS AND PROCESS FOR.	ESS FOR
AUX			5530551	356/335	356/394	6/25/96	METHOD FOR APPARATUS FOR	US FOR
		ı,						
	3451/	32	1	356/336	356//1	6/24/69	PARTICLES SIZE AND DISTRIB	SIRIB
۲۲ 2			227714	320/330	430/334	0/18/20	TROCESS FOR DETERMINING	JAIN C
NSA	3431424	124		356/337	250/576	3/04/69	OPTICAL FLUID SAMPLING DEVICE	VG DEVICE.
NSA		-	5510620	356/337	250/339.12	4/23/96	DETECTION OF TURBID OR.	OR
S USA	3430220	220		356/338	340/578	2/25/69	FIRE DETECTOR.	
NSU			5530540	356/338	356/246	6/25/96	LIGHT SCATTERING MEASUREM	ASUREM
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₩ NSA	4 3436152	152		356/339	250/574	4/01/69	METHOD AND APPARATUS FOR	US FOR
NSA USA	-		5515164	356/339	250/576	96/20/9	PARTICLE SENSOR WITH LOW.	H LOW
NSA	3450480	480		356/397	359/373	6/11/69	COMPARISON VIEWER.	
NSA	4		5510891	356/397	356/30	4/23/96	OBJECT CHARACTERISTIC	TIC

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Country From Pat. # To Pat. # (# To Pat. #	Pat.#		Class	Subclass	Issue Date	Title	
3420609		_	35	356/340	250/205	1/07/69	PHOTOMETER FOR CO	FOR COMPARING
95 00507cc 95			9	320/340	320/34	08/01/0	METHODS AND APPARATOS FOR	ATOS FOR
USA 3420138 35		35	35	356/246	356/300	1/07/69	VARIABLE ANGLE ATTENUATED	ENUATED
USA 5530540 35			35	356/246	356/338	6/25/96	LIGHT SCATTERING	
USA 3598994 35		35	35	356/317	250/458.1	8/10/71	METHOD AND APPARATUS FOR.	TUS FOR
USA 5528045 356			35(356/317	356/73	6/18/96	PARTICLE ANALYZER WITH.	WITH
SEX 3432275 356		356	356	356/244	356/39	3/11/69	DISPLAY SLIDE FOR WET	/ET
USA 5527510 356			356	356/244	359/391	6/18/96	IN SITU PER AMPLIFICATION	ATION
JPX 3420609 38		36	ဗိ	356/341	250/564	1/07/69	PHOTOMETER FOR	
GBX 5471299 35	-	-	35	356/341	356/336	11/28/95	APPARATUS AND METHOD FOR	HOD FOR
USA 3510225 35	-	35	35	356/342	356/338	5/05/70	VISIBILITY INDICATING SYSTEM	SYSTEM.
USA 5506679 35	٠,	٠,	35	356/342	356/338	4/09/96	NEPHELOMETER INSTRUMENT	RUMENT.
								·
USA 3518437 38		Ř	က	356/343	250/208.5	6/03/70	APPARATUS FOR MEASURING	SURING
USA 5530540 36			35	356/343	356/246	6/25/96	LIGHT SCATTERING MEASUREM	EASUREM
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99	Country	From Pat. #	To Pat. #	Class	Subclass	Issue Date	Title
69							
70	NSA	3463591		356/318		8/26/69	LASER SPECTROSCOPY.
7.1	NSA		5528045	356/318	250/458.1	6/18/96	PARTICLE ANALYZER
72							
73.							
74	NSA	3426211		356/436	356/436	2/04/69	REFRACTOMETERS.
75	NSA		5530553	356/436	356/440	6/25/96	FIBER OPTIC PROBE APPARATUS
76							
22							
78	USA	3458284		356/37	435/287.1	7/29/69	BACTERIAL DETECTION.
79	NSA		5374396	356/37	356/336	12/20/94	SYRINGE INJECTION SYSTEM
80							
81							
82	DEX	3422443		356/39	347/237	1/14/96	DEVICE FOR AUTOMATICALLY
83	NSA		5526258	356/39	364/413.1	6/11/96	METHOD AND APPARATUS FOR
84							
85							
98	NSA	3426208		356/301	250/200	2/04/96	METHOD AND APPARATUS FOR
87	USA		5528368	356/301	356/346	6/18/96	SPECTROSCOPIC IMAGING.
88							
89							
06	NSA	3459946		356/441	250/575	8/02/69	RADIATION SENSITIVE
91	USA		5509375	356/441	250/222.2	4/23/96	APPARATUS AND METHOD
95							
93							
94	DEX	3422271		356/442	250/565	1/14/69	RADIATION SENSITIVE
95	NSA		5521376	356/442	250/574	5/28/96	OPTICAL MOTION SENSOR
90			-				

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100	Country	From Pat. #	To Pat. #	Class	Subclass	Issue Date	Title	
101								
102	NSA	3424912		356/73	356/446	1/28/69	OPTICAL INSTRUMENT F	FOR
103	USA	-	5528045	356/73	356/318	6/18/96	PARTICLE ANALYZER WITH	VITH
104								
105								
106	USA	3466450		356/440	250/357.1	69/60/6	SWIMMING POOL CHLORINE	RINE
107	USA		5530553	356/440	356/436	6/25/96	FIBER OPTIC PROBE	
108								
109								
110	USA	RE29141		250/574	356/36	2/22/77	APPARATUS FOR ORIENTING	NTING
111	JPX		5530433	250/574	340/630	6/22/96	SMOKE DETECTOR INCLUDING	LUDING
112								
113								
114	USA	3432675		250/227.11	365/126	3/11/69	OPTICAL PROGRAMMING WITH.	JG WITH
115	USA		5530242	250/227.11	250/234	6/22/96	FIBER OPTIC SCANNING BEAM	G BEAM
116								
117		*\						
118	USA	3431424		250/576	356/337	3/04/69	OPTICAL FLUID SAMPLING	NG
119	DKX		5523560	250/576	356/427	6/04/96	METHOD AND APPARATUS FOR	TUS FOR
120								
121								
122	JPX	3422263		250/435	361/231	1/14/69	IONIZED AIR PRODUCING DEVICE	NG DEVICE.
123	USA		5523577	250/435	250/492.3	6/04/96	ELECTRON BEAM SYSTEM	rem.
124								
125	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1							
126	USA	3446555		250.222.2	250/208.3	5/27/69	OPTICAL RANGING AND	0
127	USA		5509375	250/222.2	118/712	423.96	APPARATUS AND METHOD	dof
128								:

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Country	From Pat. #	To Pat. #	Class	Subclass	Issue Date		Title
XAC	3420609		250/564	356/340	1/07/69	PHOTOMETER FOR	OR
Ĭ		5461479	250/564	356/381	10/24/95	METHOD FOR CONTROLLING	ONTROLLING
			1				
USA	3433964	-	250/573	250/324	3/18/69	PHOTOELECTROSTATIC FLUID	DSTATIC FLUID
XAC		5530433	250/573	340/630	6/25/96	SMOKE DETECTOR.	OR
NSA	3457420		377/11	250/556	7/22/69	PULSE DISTRIBUTION.	JTION
USA		5464752	377/11	324/71,1	11/07/95	AUTOMATED ANALYZER FOR.	IALYZER FOR
NSA	3431423		377/10	250/574	3/04/69	FORWARD SCA	FORWARD SCATTER PHOTOM
USA		5510246	377/10	435/39	4/23/96	METHOD FOR R	METHOD FOR RAPID QUANTIFIC
USA	3422274		377/53	250/201.4	1/14/69	RADIATION SEN	SENSITIVE
NSA		5524129	377/53	340/556	6/04/96	PORTABLE COUNTER AND	INTER AND
USA	3649384		117/65	257/103	3/14/72	PROCESS FOR FABRICATING	FABRICATING
XAC		5517942	117/65	117/948	5/21/96	PROCESS FOR PRODUCING	PRODUCING
	-						
USA	3447016		313/323	439/57	5/27/69	REAR LOADING PANE	PANEL
JPX		5500571	313/323	313/635	3/19/96	METAL VAPOR DISCHARGE	DISCHARGE
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Country	From Pat. #	To Pat. #	Class	Subclass	Issue Date	Title
	3435373		372/34	372/35	3/25/69	TUNABLE RAMAN LASER.
		5526372	372/34	372/69	6/11/96	HIGH ENERGY BURSTS FROM
	3428892		73/28.01	324/71.1	2/18/69	ELECTRONIC OLFACTORY
1		5511409	73/28.01	73/28.04	4/30/96	MEASUREMENT OF EMISSION
	3473010		364/555	327/227	10/14/69	APPARATUS AND METHOD FOR
		5526258	364/555	364/413.1	6/11/96	METHOD AND APPARATUS FOR
		•				
	3457407		250/575	250/373	7/22/69	APPARATUS FOR QUANTITAT
		5482842	250/575	435/34	1/09/96	METHOD FOR DETECTING
}						
			<u></u> 5	GREAT BRITAIN	Z	
	2237950		G01N15/02		11/03/89	APPARATUS FOR ANALYSIS
		2264556	G01N15/02	G01N15/14	2/21/92	DIFFRACTION ANALYSIS
	2106242		G01N21/00	E21B47/00	1/15/82	METHOD AND APPARATUS
		2255405	G01N21/00		5/03/91	ATMOSPHERIC LIQUID

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				GERMANY			
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! 7	3510363		GO1N15/02		9/25/86	MEBANORDNUNG ZUR PARTIKEL	RTIKEL
	** •					(METHOD FOR ANALYSIS OF	OF)
1		4228388	G01N15/02	G01N21/41	3/03/94	VORRICHTUNG ZUR	·
						(METHOD OF THE SIZE DEMENT	EMENT)
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	2528912		G01N21/00		9/23/79	VORRICHTUNG ZUR	
		٤				(METHOD FOR MEASURING)	G)
		4225395	G01N21/00	G01N29/00	2/03/94	ANORDNUNG ZUR	
						(DEVICE FOR)	
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1	2091410		G01N15/02		5/10/71	APPAREIT POUR DETECTOR	OR
i						(APPARATUS FOR DETECTING	TING)
i		2681693	G01N15/02	G01N23/84	9/24/91	DIPOSITIF D'ANALYSE	
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